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ABSTRACT

This report summarizes a follow-up study of the first cohort of 5,500 limited-English-proficient (LEP) students to be mainstreamed in Newark, New Jersey schools using English-language proficiency as the sole criterion for moving from bilingual to regular classrooms. The mainstreamed cohort was compared to regular students using basic achievement tests and both native-language and English-language proficiency tests. A questionnaire was also distributed to a sample of bilingual/English-as-a-Second-Language (ESL) teachers to examine relationships between teacher characteristics and patterns of mainstreaming. Statistical data, the survey questionnaire, and three path diagrams are appended. (VWL)

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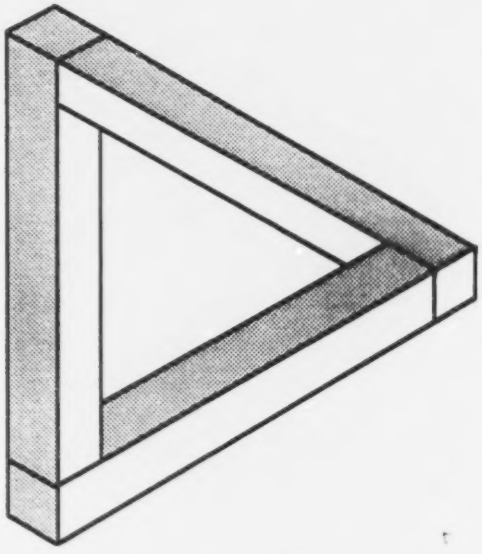

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BILINGUAL EDUCATION AND THE LEP STUDENT'S TRANSITION TO THE MAINSTREAM CLASS:
A SUMMARY REPORT

PETER HOMEL, Ph.D.

A Publication of
THE OFFICE OF PLANNING, EVALUATION, and TESTING
Newark Board of Education, Newark, NJ

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Bilingual Education and the LEP Student's Transition to the Mainstream Classroom: A Summary Report

Introduction

This report constitutes a summary of the results from a follow-up study of the cohort of LEP students who were mainstreamed in the 1989-90 school year in the Newark School System (The full report will be available shortly from the Office of Planning, Evaluation, and Testing). This cohort constituted the first group of LEP students in the Newark School District to be mainstreamed according to the so-called "single criterion" system which was mandated by the NJ State Department of Education in 1989. Their performance after a year of experience in an all-English speaking classroom environment was considered to provide support either for or against the single criterion system.

This report consists of three distinct sections. Section I describes the progress of the mainstreamed cohort after the first year. In particular, this section compares the mainstreamed cohort with the general developmental population in terms of changes in CTBS scores from Spring 1989 to Spring 1990. Section II looks at the results of a questionnaire that was distributed to a sample of bilingual/ESL teachers during the 1989-90 school year. This questionnaire attempted to measure some of the basic characteristics of native language and ESL teachers in terms of their background, attitudes, and classroom behavior. It also attempted to explore possible relationships between those teacher characteristics and the patterns of mainstreaming in the teachers' schools. Finally, Section III looks at a longitudinal study of students in the LEP program between 1988 and 1989 in order to look at the interrelationships among a set of measures including basic achievement (reading, language, and mathematics) in the native language and English as well as English proficiency.

Section I: The Mainstreamed Cohort - One Year Later

The rationale for doing a study of the LEP students who were mainstreamed in 1989 was described in detail in the first report (OPET: *Educating at-Risk Students*, 1990). In brief, the NJ State department of Education in 1989 instituted the so-called "single criterion" system for determining the eligibility of LEP students to exit the bilingual program and be placed into all-English speaking classrooms. According to the State's decision, eligibility was to be based solely on proficiency in English (which in the case of Newark was measured by the Language Assessment Battery or LAB).

The system that had been employed previously in the Newark School District involved at least two other criteria in addition to English proficiency: achievement in English based on CTBS and teacher judgement of the student's readiness to be mainstreamed.

One of the criticisms expressed by many bilingual educators across the state was that the single criterion system relied too much on how the student did on a specific test of English proficiency which may not be a valid measure of the general ability of the LEP student to function in an all English speaking environment. Given that concern, it was very important to follow the progress of first group of LEP students mainstreamed under the single criterion system.

Approximately 5500 students participated in the bilingual program during the 1988-89 school year. According to the records of the Office of Bilingual Education, a total of 691 students qualified for mainstreaming as of June 1989. In the previous report, an attempt was made to match these students in terms of their LAB and CTBS scores in 1989. Matching by student identification number alone resulted in 354 matches or about 51% of all students eligible for mainstreaming in spring 1989. For the follow-up, an added effort was made to match as large a percentage of the mainstreamed students as possible. This resulted in 488 successful matches or approximately 71% of the students eligible for mainstreaming in 1989. Table 1 shows the breakdown by grade of the number of matches as a result of this matching procedure.

Table 1

Number of students matched on LAB and CTBS 1989 by Grade.

Grade	All Students	BSI Reading	BSI Writing	BSI Math
1	43	6	0	4
2	120	51	8	15
3	97	5	17	23
4	50	15	2	15
5	52	18	15	15
6	52	35	25	12
7	35	23	8	14
8	39	9	12	17
Total	488	162	87	115

Table 1 also lists the number of students in this matched group who qualified for any one of the three Basic Skills areas (reading, writing, and math). Qualification was based on scoring below the state determined MLP's on any one of the subtests of the CTBS. The relative percentages of students in each Basic Skills category are comparable to those found in the previous matched sample described in the OPET *Educating at-Risk Students,*(1990). It should be stressed that approximately one third of the students who were mainstreamed qualified for Basic Skills Services, with proportionally more of the students in the mainstreamed cohort qualifying for services in reading, and proportionally fewer of the students needing services in mathematics, which is a different pattern than the one usually encountered in the developmental program.

Table 2.

Comparison of CTBS Reading Scores 1989-90 for Mainstreamed Students not in BSI Reading Program

Grade 89-90	n	Mean 1989	SD 1989	Mean 1990	SD 1990	Gain	t-value	df	2-tail
2	36	60.8 (61.9)	10.0	57.8 (54.8)	16.1	-2.9 (-7.1)	-1.17	35	n.s.
3	54	55.1 (60.2)	11.4	52.7 (52.4)	9.4	-2.4 (-7.8)	-1.37	53	n.s.
4	79	46.0 (50.7)	8.2	41.7 (42.7)	5.9	-4.3 (-8.0)	-4.85	78	>.001
5	26	42.1 (46.8)	6.2	49.7 (47.6)	10.4	7.6 (-0.8)	7.65	25	>.001
6	26	43.4 (48.6)	1.4	49.2 (48.1)	15.6	5.8 (-0.5)	2.02	25	n.s
7	12	45.1 (54.9)	3.9	51.0 (54.3)	13.8	5.9 (-0.6)	1.79	11	n.s.
8	9	52.0 (56.3)	10.7	51.4 (51.6)	17.8	0.6 (-4.7)	0.10	8	n.s
9	15	46.1 (52.0)	4.9	35.8 (41.1)	7.6	-10.3 (-10.9)	5.60	14	>.001

Table 3.

Comparison of CTBS Language scores 1989-90 for Mainstreamed Students not in BSI Writing Program

Grade 89-90	n	Mean 1989	SD 1989	Mean 1990	SD 1990	Gain	t-value	df	2-tail
3	93	49.7 (54.3)	14.2	51.9 (56.0)	18.1	2.2 (1.7)	1.36	92	n.s.
4	74	54.7 (57.3)	13.6	50.8 (52.9)	12.4	-3.9 (-4.4)	-2.02	73	.047
5	39	48.0 (51.7)	12.1	53.2 (51.1)	16.3	5.3 (-0.6)	1.90	38	n.s.
6	29	51.8 (57.8)	15.3	55.8 (55.6)	13.2	4.0 (-2.2)	1.49	29	n.s.
7	20	57.0 (60.5)	7.7	58.6 (57.8)	2.9	1.5 (-2.7)	0.55	19	n.s.
8	23	56.6 (58.3)	9.6	52.0 (53.3)	9.5	-4.7 (-5.0)	-2.15	22	.043
9	13	50.2 (55.0)	5.7	46.4 (52.4)	13.1	-3.8 (-2.6)	-1.15	12	n.s

Figure 1 -- Non-BSI Reading scores 1989-90

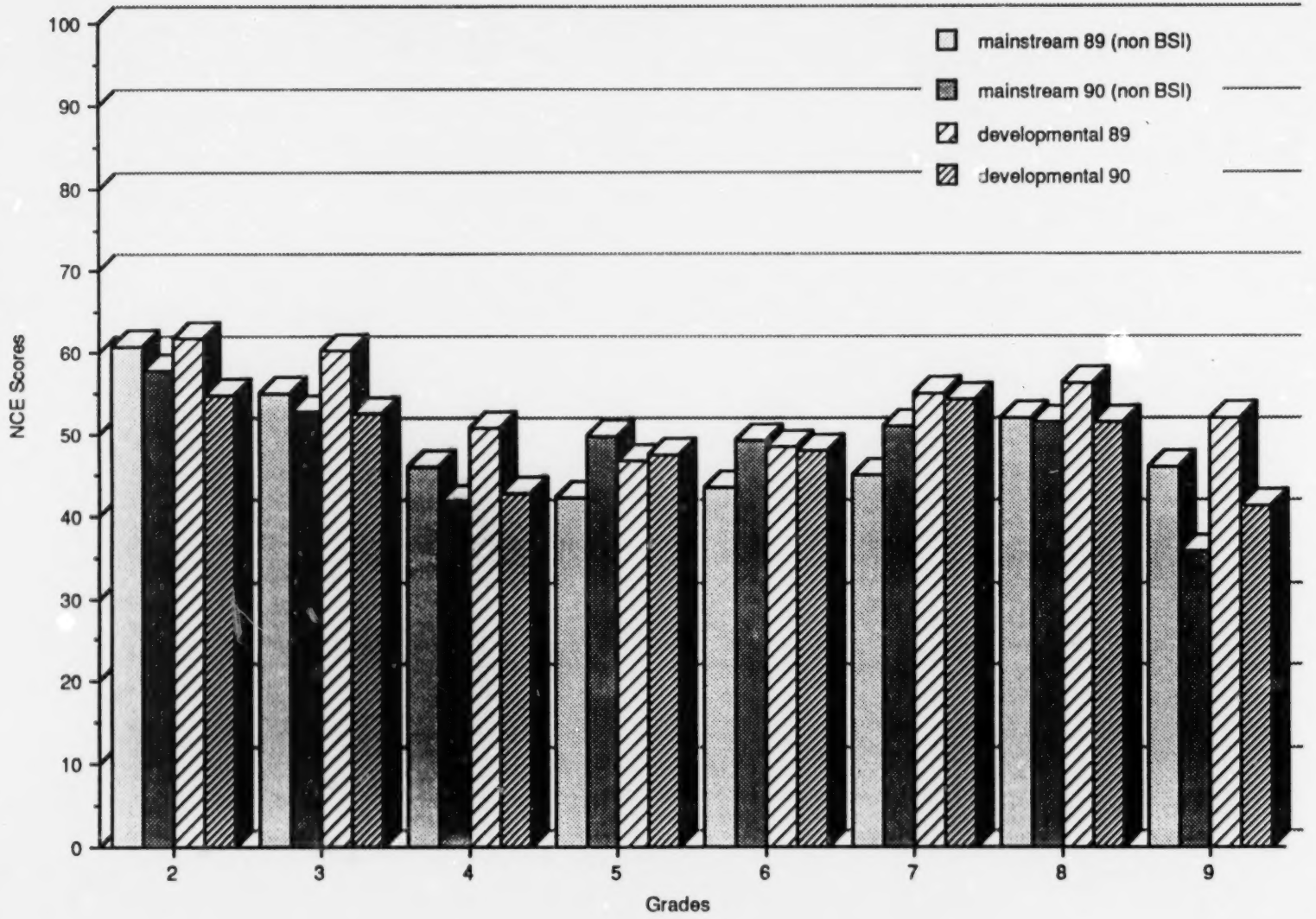


Figure 2 -- Non-BSI Language scores 1989-90

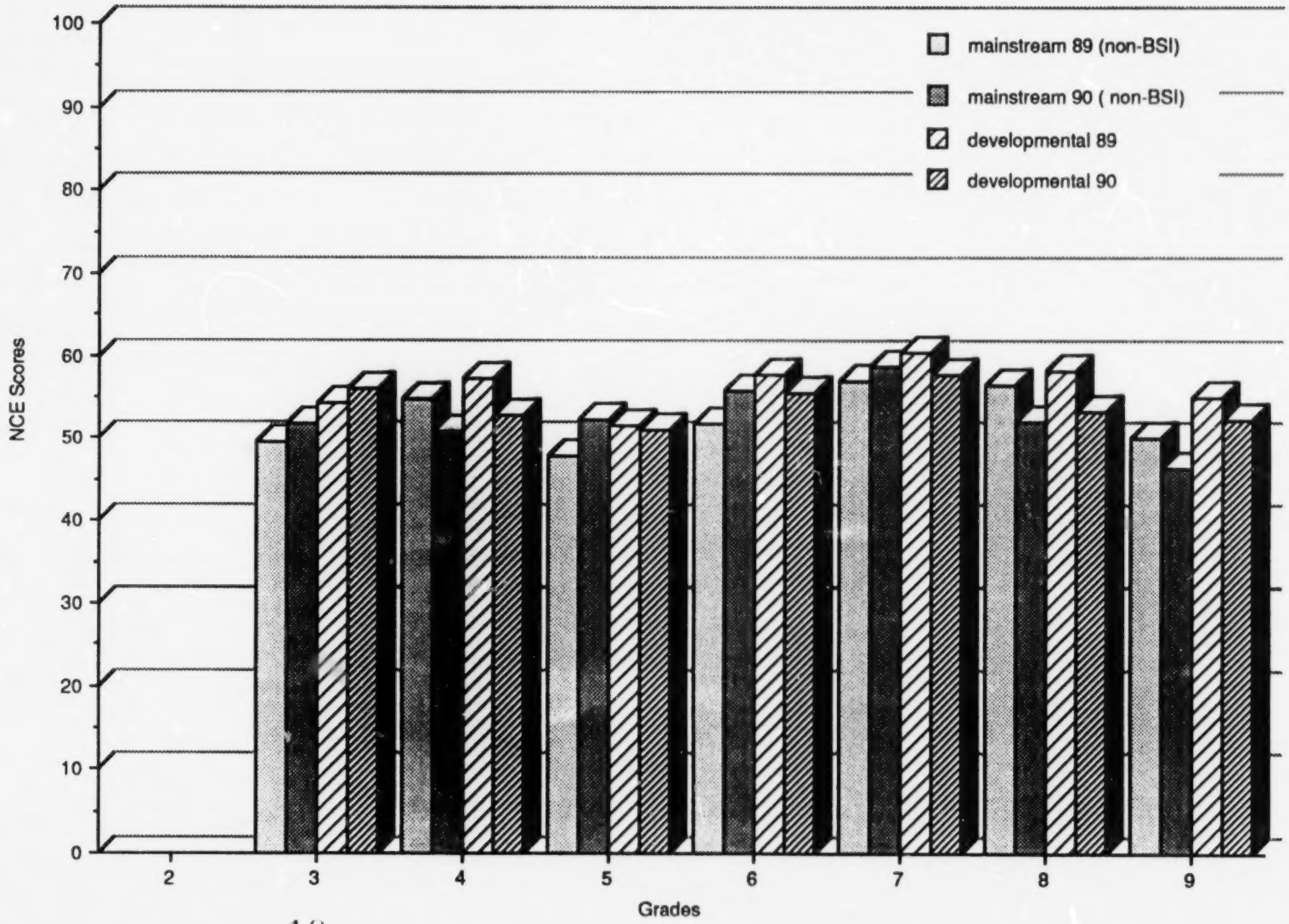


Table 4.
Comparison of CTBS Mathematics Scores 1989-90 for Students not in BSI Mathematics Program

Grade 89-90	n	Mean 1989	SD 1989	Mean 1990	SD 1990	Gain	t-value	df	2-tail
2	25	73.9 (68.0)	11.1	72.5 (63.2)	17.6	-1.4 (-4.8)	-0.46	34	n.s.
3	85	70.4 (67.6)	14.65	65.0 (62.0)	18.8	-5.4 (-5.6)	-2.61	84	011
4	63	60.5 (64.8)	11.7	60.7 (59.1)	17.1	1.8 (-5.7)	0.78	62	n.s.
5	27	67.3 (66.6)	12.5	69.3 (64.0)	18.1	2.0 (-2.6)	0.53	26	n.s.
6	29	68.4 (71.0)	10.0	67.0 (70.6)	14.0	-1.4 (-0.4)	-0.49	28	n.s.
7	32	71.4 (71.9)	10.5	66.4 (60.8)	17.8	-5.1 (-11.1)	-2.30	31	.028.
8	18	72.0 (70.0)	12.4	64.4 (62.1)	9.2	-7.6 (-7.9)	-2.57	17	.020
9	9	61.8 (65.7)	7.8	53.1 (59.6)	20.3	-8.7 (-6.1)	-1.60	8	.148

Table 5

Comparison of CTBS Reading scores 1989-90 for Mainstreamed Students in BSI Reading Program

Grade 89-90	n	Mean 1989	SD 1989	Mean 1990	SD 1990	Gain	t-value	df	2-tail
2	2	40.5 (32.9)	---	44.0 (39.5)	--	3.5 (6.6)	---	--	----.
3	44	35.8 (31.1)	7.3	41.3 (38.0)	9.3	5.5 (6.9)	4.46	43	>.001
4	4	30.8 (25.2)	3.3	34.5 (30.7)	5.8	3.8 (5.5)	0.99	3	n.s.
5	15	32.6 (28.7)	1.6	37.0 (31.2)	12.6	4.4 (2.5)	1.35	14	n.s.
6	11	29.5 (26.0)	5.3	37.7 (32.6)	2.4	8.2 (6.6)	3.74	10	.004
7	29	33.8 (32.6)	3.6	37.7 (36.1)	7.7	3.9 (3.5)	3.07	28	.005
8	17	34.4 (32.1)	4.8	39.4 (34.8)	6.2	5.0 (2.7)	4.22	16	.001
9	3	29.0 (30.0)	---	20.0 (23.0)	---	-9.0 (-7.0)	---	---	---

Figure 3 -- Non-BSI Mathematics scores 1989-90

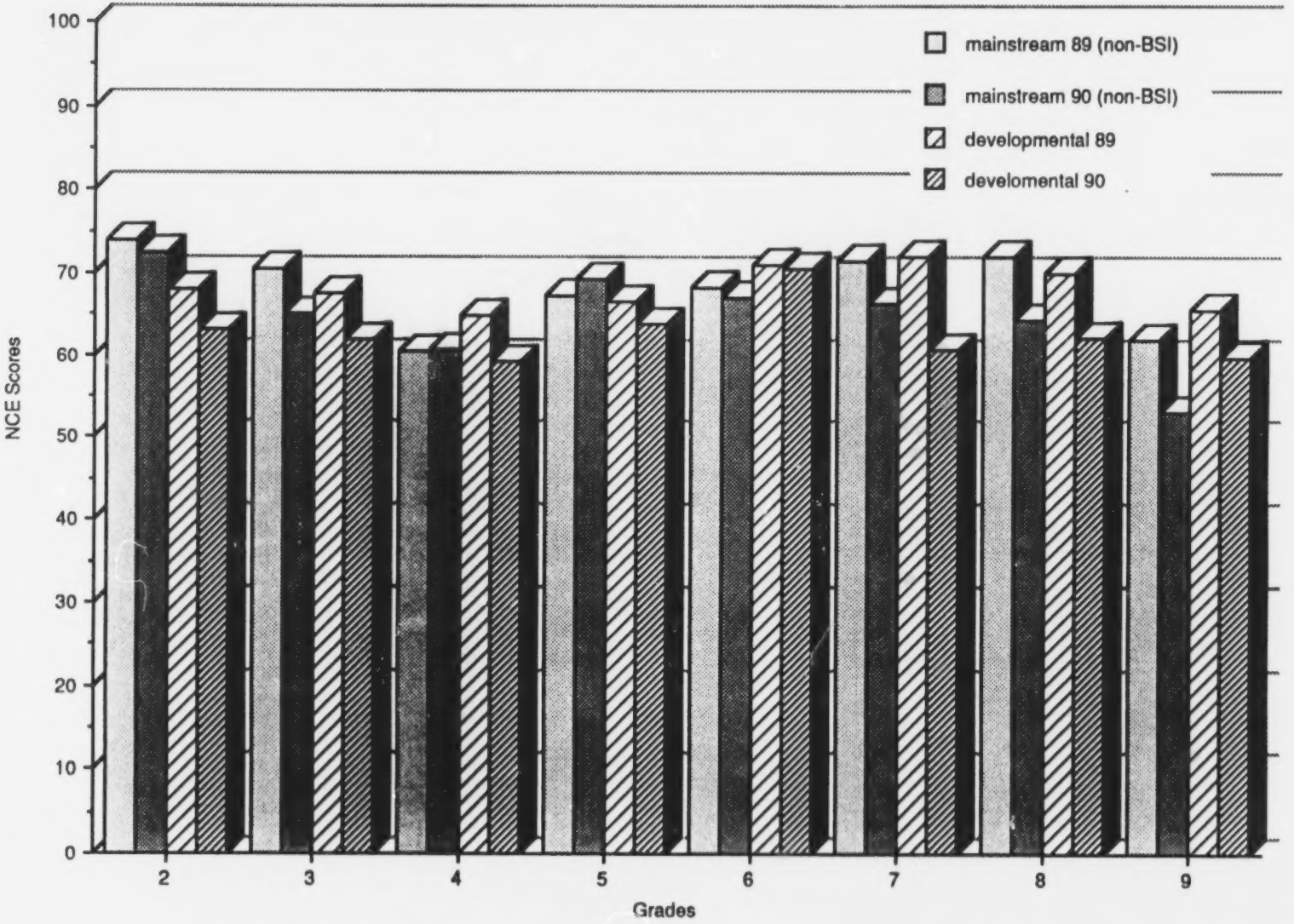


Figure 4 -- BSI Reading scores 1989-90

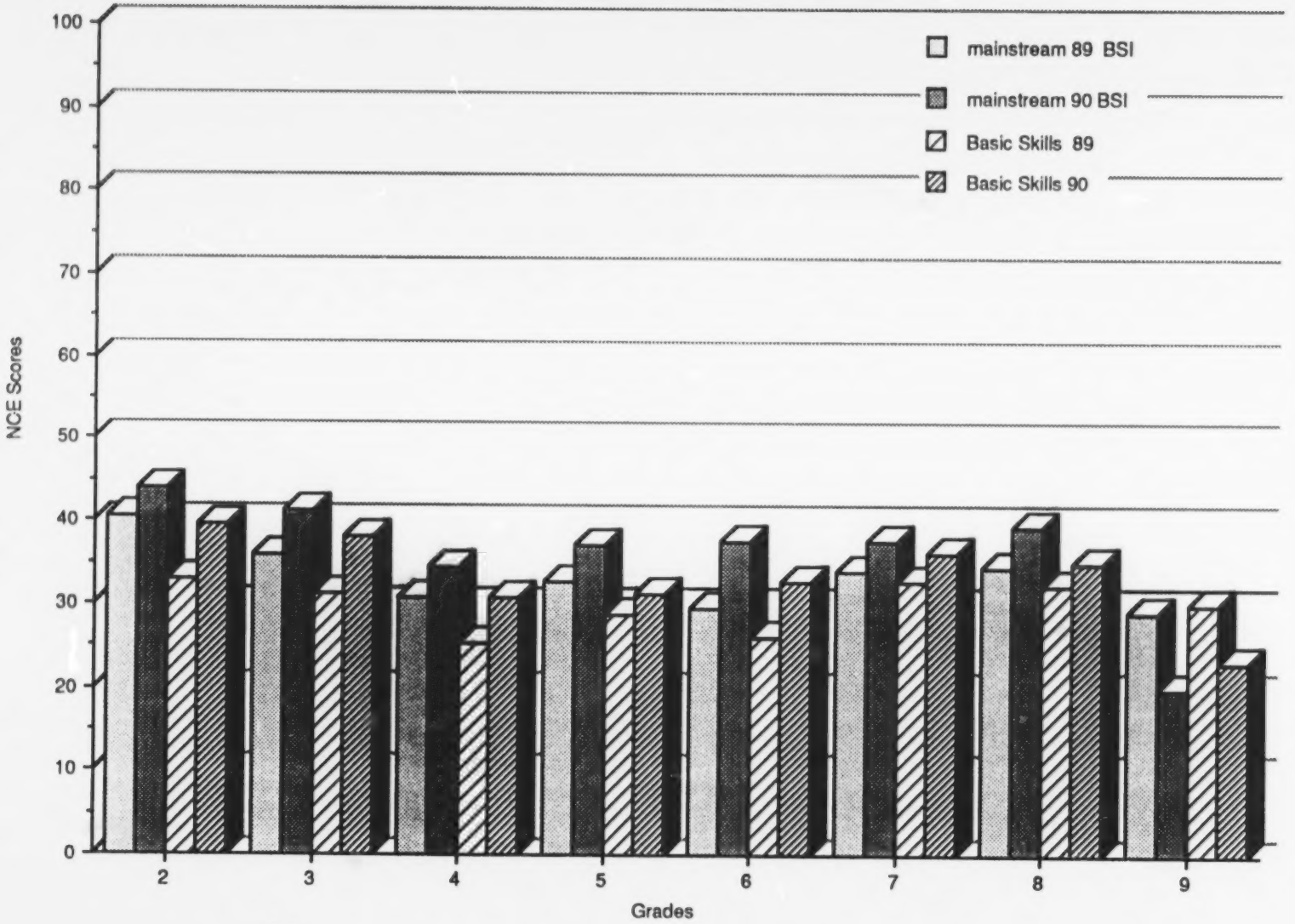


Table 6

Comparison of CTBS Language scores 1989-90 for Mainstreamed Students in BSI Writing Program

Grade 89-90	n	Mean 1989	SD 1989	Mean 1990	SD 1990	Gain	t-value	df	2-tail
3	5	26.4 (23.6)	5.7	27.8 (34.1)	11.2	1.4 (10.5)	0.21	4	n.s.
4	9	30.9 (27.0)	5.3	46.0 (36.8)	13.2	15.1 (9.8)	4.41	8	.002
5	2	31.0 (27.2)	---	45.0 (30.2)	----	14.0 (3.0)	----	--	---
6	8	32.8 (30.2)	3.4	41.1 (39.2)	3.7	8.3 (9.0)	7.19	9	>.001
7	21	44.6 (38.8)	4.0	44.9 (41.6)	8.8	4.3 (2.8)	2.13	20	.046
8	3	36.7 (37.6)	---	41.3 (39.6)	---	4.7 (2.0)	----	--	----
9	5	36.0 (36.1)	6.4	35.0 (31.8)	11.2	-1.0 (-4.3)	0.32	4	n.s.

Table 7

Comparison of CTBS Mathematics scores 1989-90 for Mainstreamed Students in BSI Math Program

Grade 89-90	n	Mean 1989	SD 1989	Mean 1990	SD 1990	Gain	t-value	df	2-tail
2	3	41.3 (33.0)	---	56.3 (49.2)	---	15.0	----	---	--
3	13	37.9 (33.3)	6.1	54.3 (46.7)	21.2	16.4 (13.4)	2.94	12	.012
4	20	40.4 (36.6)	7.1	51.6 (42.2)	17.3	11.2 (5.6)	2.69	19	.015
5	14	40.7 (37.4)	5.6	52.9 (45.0)	20.9	12.2 (7.6)	2.45	13	.029
6	8	44.5 (40.0)	5.2	58.5 (51.0)	12.3	14.0 (11.0)	4.55	7	.003
7	9	43.8 (43.1)	11.3	44.2 (41.6)	15.2	0.4 (1.5)	0.09	8	n.s.
8	7	38.0 (42.2)	8.3	44.7 (45.0)	7.9	6.7 (2.8)	2.48	6	.048
9	8	43.7 (41.4)	6.3	37.0 (40.8)	5.2	6.6 (-0.6)	2.67	7	.032

Figure 5 -- BSI Language scores 1989-90

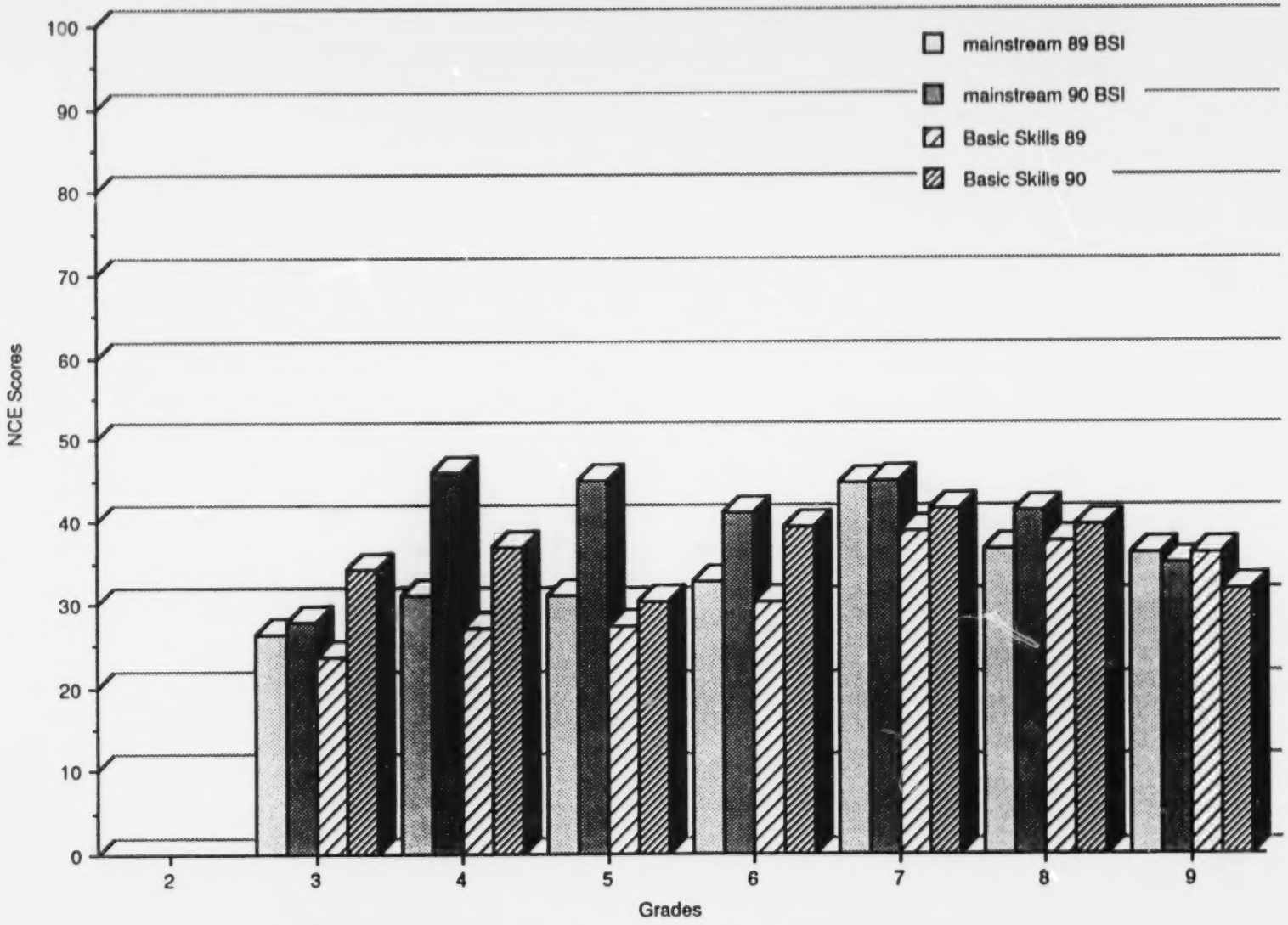
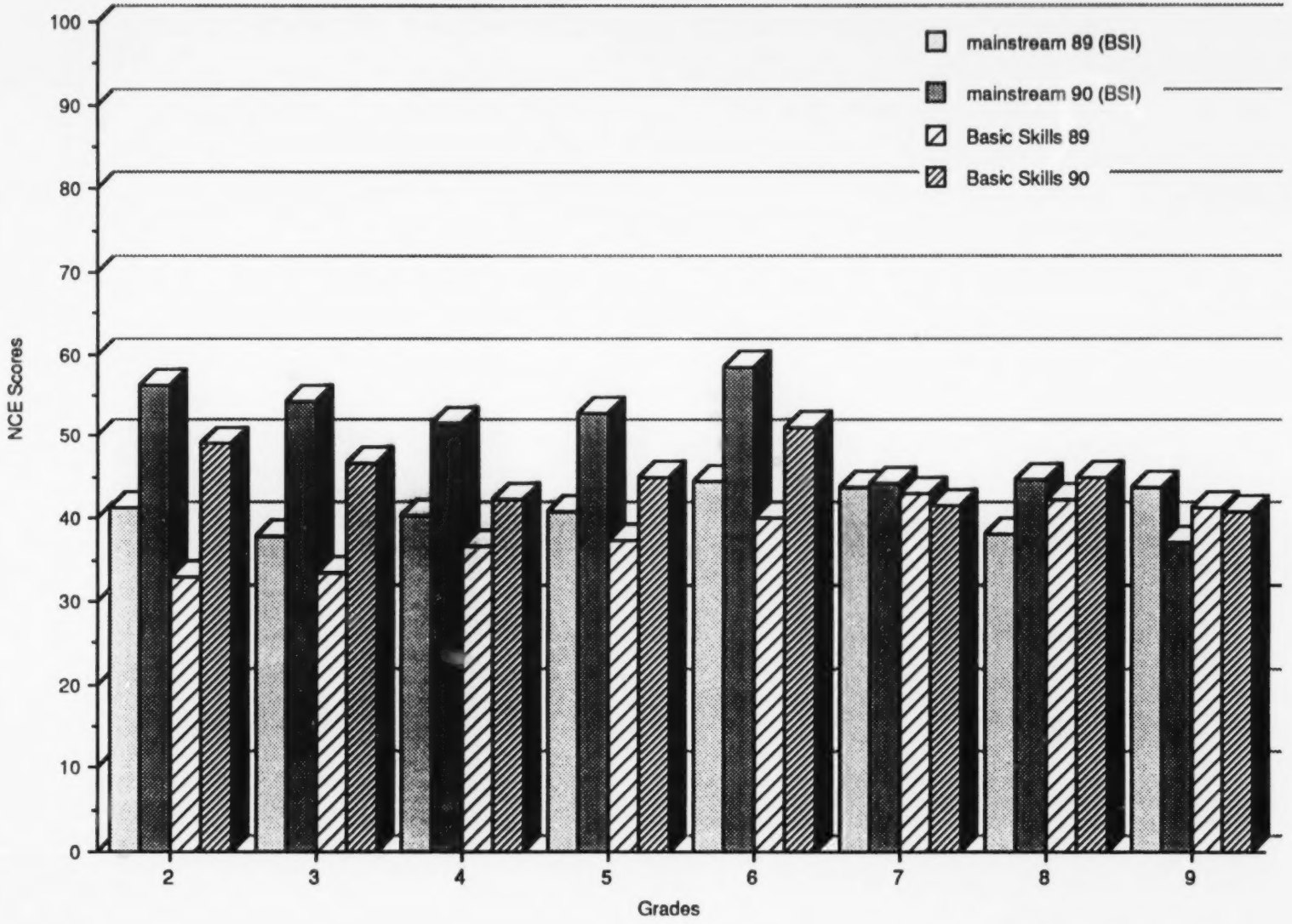


Figure 6 -- BSI Mathematics scores 1989-90



Tables 2 to 4 show the results of comparing the CTBS scores for 1989 and 1990 for the members of the mainstreamed cohort who did not qualify for either Basic Skills services in Reading (Table 2), Writing (Table 3), or Mathematics (Table 4). Looking at mean NCE scores one sees the following ordering among the three skill areas in terms of strong and weak areas. Reading shows the lowest means overall, Language is intermediate and Mathematics shows the highest means of all.

These tables also show, for those students who did not qualify for Basic Skills Instruction, the degree of "gain" or difference between the mean CTBS scores in 1989 (before being mainstreamed) and the mean CTBS scores in 1990 (after a year of experience in mainstream classes). What one notices on first inspection is that the LEP cohort appears to be showing declines in all three skill areas, especially at the lower grades. Thus in Reading (see Table 2), the mainstreamed cohort shows declines at grades 2, 3, 4, and 9 with statistically significant declines at grades 4 and 9. In Language (See Table 3), the mainstreamed cohort showed declines at grades 4, 8, and 9 with statistically significant declines for grades 4 and 8. And in Mathematics (See Table 4), the mainstreamed cohort showed declines at grades 2, 3, 6, 7, 8, and 9 which were statistically significant at grades 3, 7, and 8.

Based on just a preliminary inspection of the results for the subset of the mainstreamed cohort which did not qualify for Basic Skills services, one might be tempted to conclude that there was a general decline in performance in the mainstreamed cohort. One might also be tempted to conclude that this was probably attributable to their difficulties in adjusting to a mainstream classroom environment. Quite another interpretation, however, arises from comparing the results of the mainstreamed cohort with the performance of developmental students as a whole during the same period. The figures in parentheses in the tables 2 to 4 represent the corresponding pre- and post-test means and gains for all developmental students. These results were obtained from data provided in the OPET *Basic Skills Evaluation Report 1989-1990.*

In Table 2, for example, one can see that while the mainstreamed cohort in grade 2 showed a decline of 2.9 points, the developmental students as a whole at that grade showed a decline of 7.1 points. Looking at the other grades in each skill area (Tables 2 to 4), one sees in general that wherever there is a decline for the mainstreamed students there is a similar and usually greater decline for the developmental students. In some instances, the mainstreamed students show almost no change or even show gains, while in contrast the comparable group of developmental students still show declines. These trends can be seen more clearly in Figures 1 to 3. There one can see the pre and post-test means for each group in reading, writing, and mathematics as well as the general trend for the mainstreamed cohort to show less of a decline overall than the rest of the developmental students.

From this one would conclude that whatever problems the mainstreamed students face, they do not seem to be due to problems of adapting to a mainstream classroom. On the contrary, whatever declines they show seem to be due to problems that are more generally widespread among the students in the developmental program. In fact, the mainstreamed cohort appears to be withstanding the effects of those problems in the developmental program.

Comparisons were also made between students of the mainstreamed cohort who qualified for non-LEP Basic Skills services (BSI) versus all students in the non-LEP Basic Skills program. The results are shown in Tables 5 to 7 for Reading, Writing, and Mathematics. The pre- and posttest means for each group are also graphed in Figures 4 to 6 where the trends are easier to follow across grades in each skill area. In general, for all three areas one finds that the students of the mainstreamed cohort are higher on both pre and post measures. The only exception, perhaps, is at grade 9 for all three areas. This again may be due to differences in emphasis on passing the HSPT test as opposed to the CTBS as well as problems peculiar to LEP students adjusting to the classroom environment at the secondary level.

In general, the students of the mainstreamed cohort appear to be adjusting to the transition to English speaking classrooms very well. Even though they show declines on the CTBS, this should be interpreted in the light of overall patterns of decline among

developmental program students as a whole during that period. Indeed, the mainstreamed students often seem to be doing better relative to the general developmental population. The mainstreamed students who qualify for BSI services tend to start out higher on the CTBS than the rest of the BSI students and maintain their superiority a year later. As a result, the students in the mainstreamed cohort were more likely to exit the BSI program.

Section II: The Bilingual/ESL Teacher Questionnaire

In parallel with the study of the mainstreamed cohort, an attempt was made to survey native language and ESL teachers from a stratified sample of schools which provided services to bilingual students. The survey questionnaire was designed to obtain information about such things as the teacher's background and experience, everyday instructional practices, attitudes and feelings toward teaching, and general satisfaction with basic classroom facilities. There were also two open-ended questions, one pertaining to "things" (practices, materials, etc.) which the teacher found useful in teaching LEP students, and the other question pertaining to problems the teacher may have encountered with regard to LEP students.

An attempt was made to have as broad a representation of the teaching staff as possible, taking into account different size schools, the number of LEP students relative to the total student body, and also the rate of LEP students who are mainstreamed from the school. The sampling was based on the following categorization of all schools with bilingual services. Schools were classified according to three variables: Size of school in terms of total student enrollment; Size of bilingual program relative to total enrollment; and Proportion of mainstreamed students relative to the total number of bilingual students. A random sample of schools across all categories was obtained and the schools chosen to be surveyed are listed in Appendix A. Each school is identified by its designated type. For example, Abington as an "LMM" school was felt to represent a school with a relatively large total enrollment, a moderate number of bilingual students relative to the total enrollment, and a moderate rate of

mainstreaming. Alexander as an "MLH" school, on the other hand, was considered a moderately sized school in terms of overall enrollment, with a large bilingual enrollment relative to the total, and with a high rate of mainstreaming.

The questionnaire (see Appendix B for listing of the items) was intended to maintain the anonymity of the teachers in order to allow them to feel comfortable about answering the questions as freely as possible. The final number of returns from each school for native language and ESL teachers are shown in Appendix A. The numbers in parentheses are the official number of native language or ESL teachers who were reported to be at each school. The total number of returns for the native language teachers amounted to about 60 % of the total (89 out of 149), while the total number of returns for the ESL teachers represented about 67 % of the total (51 out of 76).

Only a few native language teachers in pull-out situations or Supplementary ESL teachers responded to the questionnaire and so it was decided not to include them in the final analyses. The remaining sample of respondents consisted of 74 native language teachers who taught in self contained classes and 47 ESL teachers. It was felt that the experiences and professional orientations of native language and ESL teachers were sufficiently different from one another to merit separate and contrasting analyses of each group. The items of the questionnaire will be reported in four parts: teacher background and experience; teacher attitudes and satisfaction; students and classroom behavior; and a section describing responses to two open ended questions.

Background and Experience of Native and ESL Teachers

The native language and ESL teachers appear to be very similar in terms of their background and training. The majority in both groups (71 % for native language teachers and 85 % for ESL teachers) reported having taught for eight or more years. They also reported similar levels of educational attainment. About 48 % of the native language teachers and 59 % of the

ESL teachers indicated that they had at least an MA degree. All ESL teachers had ESL certification while 53 % of the native language teachers had bilingual certification.

A large majority of teachers in both categories reported providing services to Spanish speaking students (85 % of the native language teachers and 100 % of the ESL teachers) followed by Portuguese students (21 % of the native language teachers and 62 % of the ESL teachers). About half of the ESL teachers also reported providing services to students who spoke other languages such as Haitian French Creole.

One major characteristic where native language teachers do show a difference from their ESL colleagues was in terms of their self rating of ability in English. All but one of the ESL teachers rate themselves as "excellent", as opposed to 58 % of the native language teachers. Not surprisingly, the native language teachers appear to be somewhat stronger in their native languages, as shown by the fact that 79 % of the native language teachers rate themselves as "excellent in Spanish".

Teacher Attitude and Satisfaction

For the items in this section, teachers were asked to give ratings of how much they agreed with statements about teaching practices and teaching conditions. In terms of their basic attitudes toward instruction and general satisfaction with teaching conditions (e.g., such things as the physical space they teach in), the two groups of teachers again show many similarities. In general they show fairly high levels of agreement for the following items: Placing great emphasis on student achievement; Placing emphasis on emotional and personal growth; Being clear about their instructional goals; Encouraging students to maintain their linguistic and cultural identities; Keeping the class list up-to-date; Skills which they taught were appropriate for their students; Having instructional materials readily available; and Getting a lot of support from the school administration. While the item "Physical Facilities were Adequate" does not show a significant difference between the two groups, there are a sizeable number of responses given by the ESL teachers at the lower end of the rating scale. This

suggest that there were a number of ESL teachers who were dissatisfied with the physical facilities they were required to teach in.

Native language and ESL teachers both show a mixed response pattern to the statement "Parents of the Program were Interested in the Progress of Their Children". Although the means for this items are still moderately high, (mean for native language teachers was 3.57 while the mean for the ESL teachers was 3.43) and the majority of teachers in both groups gave ratings of either "4" or "5", there are sizeable numbers of teachers giving ratings at the lower end which may be an indication that lack of parental interest and participation may be a rather local but still serious problem to be addressed.

The two groups of teachers tended to differ on only a few of the attitude items. So, for example, native language teachers were less likely to give their highest ratings of agreement to the statement "I encouraged my students to become proficient in English as quickly as possible". On the other hand, the ESL teachers showed much lower levels of agreement with the statement "The environment in which I taught was conducive to learning". This difference is probably due to the fact that ESL teachers tend to carry out their instruction on a pull-out basis and usually in those cases must make do with whatever space is available to them to teach in.

Classroom Behavior and Activities

Again, both groups of teachers show overall similarities in terms of their profiles with some exceptions. They both state that most of their students attended on a regular basis and showed great progress over the year. They both appear to make very little use of individual instruction as opposed to giving instruction to small groups or to the class as a whole. They also appear to meet with other teachers to coordinate instruction to the same degree, with weekly sessions being the most common schedule reported for both groups.

The item dealing with the percentage of time that English was used for instruction shows a difference in response pattern for the two groups. Native language teachers showed

much more variability in their responses. All but one of the ESL teachers report using English "81 to 100 %" of the time. Only 27 % of the native language teachers reported this level of English usage, with substantial numbers of native language teachers giving responses for all of the remaining levels of usage, including about 12 % of the native language teachers who stated that they used English "0 to 20 %" of the time.

Some other differences between the two groups: ESL teachers appear to show a greater tendency to teach in small group situations. Native language teachers tend to be much more in contact with the parents of students as indicated by their reporting a greater frequency of meetings with parents as well as being much more likely to phone parents or to write letters to inform parents of their child's progress.

Open Ended Questions

Two open ended questions were included among the items on the teacher questionnaire. One question asked the teachers to give strategies or techniques they found to be useful in teaching LEP children. The other question asked them to list problems which they encountered in teaching LEP students.

Respondents were encouraged to give as many answers as possible to these questions, with more than one response possible from each teacher. For the question dealing with helpful techniques, there were 89 responses overall from the ESL teachers, as opposed to 81 from the native language teachers . For the question dealing with problems, there were 69 responses from the native language teachers and 59 from the ESL teachers.

The responses for the "helpful" question were grouped into five basic categories. The category "Affective Factors" was comprised of all those responses having to do with encouraging positive attitudes, motivation, self esteem, cultural pride and so on. The category "Educational Theories" contained all those responses which dealt with theories or conceptual approaches to education. Responses having to do with the actual carrying out of instruction

were grouped together as "Instructional Practices" while the category "Materials" included all responses which mentioned the use of instructional materials such as books, audio tapes, pictures, and so on. The major categories (based on the number of responses from both groups of teachers) were "Instructional Practice" (with 122 responses overall), followed by "Material" (22 responses), "Affective Factors" (11 responses), and "Educational Theories" (10 responses).

Many of the responses to this item were similar to what had been seen with the structured items of the other three sections. Some responses appear to be favored by native language teachers: "Encouraging pride in native language, culture" and "Use of native language and English". Other responses favored by native language teachers are "Instructional Theory Into Practice" or "ITIP", and "Use of hands on material or objects which can be manipulated".

The things that ESL teachers found useful were "Language experience", "Repetition and practice", "Use of Audio tapes", and "Use of Visual materials (pictures, flashcards)". The response "Oral approach or Oral experience" seemed to be equally favored by both sets of teachers as were the responses "Peer teaching" ,"Relating Instruction to Student Background", and "Use of Written Materials like Books or Workbooks".

Responses to the "problem" question were grouped according to the following categories: "Classroom/Physical Facilities" in which were included all responses which have to do with the physical size or the physical conditions encountered in teaching. The category "Instructional; Practice" had to do with difficulties in the carrying out of instruction while "Materials" referred to problems in terms of lack of materials or other inadequacies in terms of materials for instruction. "Social Environment" is comprised of responses that have to do with such social relationships as how the respondent gets along with other teachers or staff. And finally, "Students" contains all responses involving problems with students as a result of their lack of preparedness or motivation for learning. The major categories of problems were "Students" (with a total of 64 responses); "Instructional Practice" (31 response); and "Materials" (16 responses).

Again, the two groups of teachers show some differences with regard to response pattern, though to a lesser degree than with the "help" response. Native language teachers tend to mention problems they encounter in their students: "Lack of Experience or Lack of Everyday Vocabulary" and "Weakness in the Native Language" . ESL teachers, on the other hand, mention "Classroom Size" as a problem which is somewhat in agreement with what was found for the ESL teachers' ratings of whether the physical conditions under which they taught were adequate. The ESL teachers also tended to mention "Difference of Ability of Students within the Same Group". Finally, The two groups of teachers show similarities with regard to the frequency with which the following are mentioned: "Lack of Materials", "Poor Attendance and Transfers", and "Problems at home ".

Relationship between Teacher Characteristics and Behavior and Mainstreaming

One intent of the Teacher Background Questionnaire was to explore some of the aspects of the original bilingual classroom environment that might be conducive to mainstreaming. In an attempt to look at possible relationships, individual items on the Teacher Background Questionnaire were correlated with the Rate of Mainstreaming for each teacher's school, with Rate of Mainstreaming defined as the ratio of LEP students who were mainstreamed in a particular school in 1988 to the total number of LEP students in that school in 1988.

The correlations were determined separately for native language teachers and ESL teachers using listwise inclusion of cases (i.e., only respondents with complete answers on all items were included). This resulted in a final comparison sample of 53 for the native language teachers and of 24 for the ESL teachers.

For the native language teachers, three variables show a significant correlation with rate of mainstreaming: the teacher's self rating of ability in English shows a positive correlation of .36; the teacher's estimate of percentage time spent speaking English in class also shows a positive correlation of .33; and the correlation between percent of time teaching to the class as a whole shows a negative correlation of -.32).

These variables are related to one another as well. The correlation between self rating of ability in English and percentage of time speaking English is .62), which indicates that there is a strong relationship between a native language teacher's ability in English and the percent of time he or she uses English in the classroom. There is also a significant positive relationship (correlation = .44) between self rating of ability in English and tendency to rely on teaching in small groups, as opposed to teaching individual students or the entire class.

Only one of the correlations involving items from the Teacher Background Questionnaire and rate of mainstreaming was significant for the ESL teachers. There is a significant negative correlation between the rate of mainstreaming and the degree of agreement to the item "I carefully kept my class list up-to-date throughout the school year": correlation = -.49. Interestingly enough, the correlation with Item B1 "I placed great emphasis on student achievement in my approach to teaching" is also relatively high and negative, although not high enough to attain significance: correlation = -.45. The negative sign for these correlations indicates that the higher an ESL teacher rated himself or herself on those items, the lower the mainstreaming rate for that teacher's school. The results for the ESL teachers should be viewed with some caution, however, due to the small sample size involved here.

Section III: Analysis of LEP Achievement 1988-89

In collecting the data for the mainstreamed sample, it was discovered that a substantial number of Spanish speaking LEP students who were enrolled in the bilingual program between 1988 and 1989 had complete scores in both years for Spanish Achievement in Reading and Mathematics (SABE) and for Proficiency in English (LAB). Moreover, many of these students also had complete scores in English Achievement (CTBS) in 1989. Altogether approximately 578 LEP students could be matched on all of these measures in grades 1 to 8.

These data provided an opportunity to look at the relationships among these measures as a way of testing one of the basic premises of underlying many bilingual education programs: Is instruction in the native language effective in giving LEP students basic skills and knowledge

which will then carry over to achievement in English? One form of evidence in support of such a carry-over effect would be to show that achievement in Spanish is related to later gains in ability and achievement in English. One warning with regard to these data is that they should only be taken as being applicable to Spanish speaking students, who constitute approximately approximately 60% of the total LEP population. Other patterns may hold for other populations of LEP students, especially the Portuguese students who constitute the next largest segment of the LEP population in the Newark School District and who tend to show higher rates of mainstreaming. Nevertheless, it is still possible to generalize from the Spanish speaking LEP group to other groups .

A model for investigating this question was generated and it included the following variables:

Years LEP (i.e., Years in the LEP program): This was an item coded on the CTBS by each teacher and was simply a record of the number of years the particular student had been in the Bilingual Program.

Spanish Achievement in Reading or Mathematics (SABE Read or Math): These were measured by the SABE test developed by McGraw Hill. The format of the SABE test is parallel to that of the CTBS in English with the exception that the SABE does not have a subtest in Language. NCE scores for Reading and Mathematics subtests of the SABE were used for both 1988 and 1989 in NCE form.

English Proficiency (LAB): This was measured by the Language assessment Battery. It is a test of proficiency developed by the New York City Board of Education and it attempts to measure English proficiency in terms of reading, writing, listening and speaking. Measures of the LAB were available for both 1988 and 1989 in NCE form.

Teacher Opinion: This was an item personally coded by the teacher administering the LAB test in 1989 and it was meant as a yes or no assessment of whether the teacher considered a particular student to be eligible for mainstreaming. This was only available for 1989.

CTBS achievement scores (CTBS Read, Language, or Math): These were used as the measures of English achievement in the areas of Reading, Language (Writing), and Mathematics. Scores on the CTBS were only available for 1989 and were in NCE form.

Table 8
Correlations for Reading

	LEP YEARS	SABE READ 88	LAB 88	SABE READ 89	LAB 89	TEACHER OPINION	CTBS READ 89
LEP YEARS	1.0000						
SABE READ 88	-.0639	1.0000					
LAB 88	0.3435**	0.1109*	1.0000				
SABE READ 89	-.1226*	0.3591**	0.0020	1.0000			
LAB 89	0.1202*	0.2808**	0.5049**	0.2017**	1.0000		
TEACHER OPINION	0 .1152*	0.1219*	0.2787**	-.0384	0.2243**	1.0000	
CTBS READ 89	-.0123	0.3475**	0.3060**	0.4172**	0.5686**	0.1852**	1.0000

*N of cases: 578 1-tailed Signif: * = .01 ** = .001*

Table 9
Correlations for Writing

	LEP YEARS	SABE READ 88	LAB 88	SABE READ 89	LAB 89	TEACHER OPINION	CTBS LANG 89
LEP YEARS	1.0000						
SABE READ 88	-.1022*	1.0000					
LAB 88	0.3688**	0.0771	1.0000				
SABE READ 89	-.1366**	0.4876**	0.0458	1.0000			
LAB 89	0.1350**	0.3034**	0.5016**	0.2162**	1.0000		
TEACHER OPINION	0.1173*	0.0894	0.2877**	-.0292	0.2293**	1.0000	
CTBS LANG 89	-.0302	0.3986**	0.3265**	0.3937**	0.4947**	0.1511**	1.0000

*N of cases: 532 1-tailed Signif: *.01 ** .001*

Table 10
Correlations for Mathematics

	LEP YEARS	SABE MATH 88	LAB 88	SABE MATH 89	LAB 89	TEACHER OPINION	CTBS LANG 89
LEP YEARS	1.0000						
SABE MATH 88	0.0249	1.0000					
LAB 88	0.3425**	0.2051**	1.0000				
SAB MATH 89	-.0319	03552**	0.0474	1.0000			
LAB 89	0.1223*	0.2261**	0.5065**	0.1597**	1.0000		
TEACHER OPINION	0.1219*	0.1484**	0.2837**	0.0457	0.2310**	1.0000	
CTBS MATH 89	0.0691	0.4010**	0.1102*	0.6814**	0.2821**	0.0463	1.0000

*N of cases: 574 1-tailed Signif: *.01 **.001*

There were separate correlation matrices calculated for Reading, Language, and Mathematics and these are shown in Tables 8 to 10. Since the SABE does not have a subtest for Language, the Reading subtest was included as the next best estimate of Language ability in

Spanish. There are differences in the sample sizes for each correlation matrix as the result of students missing one or more subtest scores on either the SABE and the CTBS. Also, there are fewer students involved in the correlations for Language since the CTBS subtest is not given below grade 2.

Some of the correlations shown for Reading in Table 8 are especially interesting. For example, one sees that there is a significant correlation of about .34 between Years LEP and the LAB in 1988 with smaller but significant correlations between Years in the LEP program on one side and SABE Read 1989 (r = -.12); LAB 1989 (r= .12) and Teacher's Opinion in 1989 (r = .12). Years in the LEP program is not a particularly good measure of progress in the bilingual program since it confounds a number of developmental processes that may be going on at the same time during the student's career in the LEP program. These other processes include maturation, cognitive growth, normal increase in experience and knowledge of the world, and so on. It is used here more as a comparison with other measures of achievement and ability such as the SABE and the LAB.

The correlation between SABE Read in 1988 and the LAB in 1989 is .28 while the correlation between the LAB in 1988 and the SABE in 1988 is practically zero. These two correlations can be seen as part of what is termed a "cross lagged panel analysis". A cross lagged panel analysis is used to compare two variables , e.g., the SABE and the LAB, where one has a kind of "chicken and egg" question about the relationship between those two variables. In other words, it can be used when one wishes to decide between the questions "Does the SABE affect the LAB?" or "Does the LAB affect the SABE". The "lag" refers to the fact that the two variables are both measured at two successive times, in this case, 1988 and 1989.

A comparison of the cross relationships, say, the correlation between the SABE 1988 and the LAB 1989 versus the correlation between the LAB 1988 and the SABE 1989 gives an indication of which is prior or which one really affects the other. The larger cross correlation relationship is usually considered to be an indicator of the causal ordering. In this case, the

causal ordering appears to be from the SABE 1988 to the LAB 1989 since it shows the larger cross correlation.

The SABE in 1988 and the LAB in 1988 are also related to Teacher's Opinion in 1989. The correlation between SABE 1988 and Teacher Opinion in 1989 is .12 while the correlation between English Proficiency 1988 and Teacher's Opinion is .28. Both correlations are statistically significant, although they are both rather low in size which indicates that the estimates made by teachers are only related to a small degree to past performance in both native language achievement and English proficiency. It is also interesting (as well as intuitively understandable) that Teacher's Opinion is somewhat more related to English Proficiency than to Spanish Reading Proficiency.

Finally, CTBS Reading in 1989 appears to be significantly related to all the other variables in the matrix with the exception of LEP Years. It is interesting to look at the significant correlations which involve the 1989 measures. Spanish Reading Achievement 1989 shows a correlation of .42 with CTBS Reading; LAB 1989 shows a fairly strong correlation of .57 with CTBS Reading; and Teacher Opinion shows a correlation of .19 with CTBS Reading. The correlations indicate that Reading Achievement is moderately related to Spanish Achievement and English Proficiency as well as being related to Teacher Opinion to some degree. It appears from these results that both Reading Achievement in Spanish and Proficiency in English are related to Reading Achievement in English.

The correlation matrices for Writing and Mathematics (Tables 9 and 10) show similar trends. Since the SABE does not contain a subtest for Writing (Language), SABE Reading was used as the best available measure of Language achievement in Spanish. Most of the correlations then will naturally be similar to those found in Table 8. The only exceptions would be the correlations involving CTBS Language. Just looking at the correlations involving the 1989 measures one finds that all of them, with the exception of LEP Years, are significant: SABE Read 1989 shows a correlation of .39 with CTBS Language; the LAB in 1989 and CTBS Language show a correlation of .49; and Teacher Opinion has a correlation of .15 with CTBS Language.

For Mathematics, one sees again that LEP Years shows a significant relationship with the LAB in 1988 and 1989 and with Teacher Opinion in 1989. Moreover, the cross correlation between SABE Math 1988 and LAB 1989 is again much larger than the cross correlation between LAB 1988 and SABE Math 1989. This appears to give additional support for the conclusion that Spanish Achievement is more influential on English proficiency than vice versa. Of the 1989 measures and how they relate to CTBS Math, only SABE Math 1989 and LAB 1989 show significant correlations, with SABE Math 1989 showing a correlation of .68. Teacher Opinion does not appear to relate substantially to CTBS Math, in contrast to what was found in Reading and Writing.

Path analysis was used to test possible causal relationships among these variables. Very often, the correlation between two variables. say X and Y, is due to a relationship which they share with yet another variable Z. For that reason, the correlation between X and Y is never considered to be a trustworthy indicator of the actual relationship between X and Y. However, there is a statistical technique known as path analysis which enables one to explain why a set of correlations look the way they do. Thus, while correlations by themselves cannot imply causality, path analysis allows one to test whether those correlations might be explainable in terms of some set of underlying interrelationships.

Based on the path analyses for all three models, one finds that there is no significant direct relationship between Years LEP and either the SABE or the LAB in 1989. The correlations in those cases (which are already quite low) appear to be due to the relationships which LEP Years has with other variables such as SABE 1988 and LAB 1988. Again, it would appear that what is measured by Years LEP overlaps to considerable degree with what is measured by the SABE and the LAB in 1988.

Likewise, if one looks at the direct relationships which SABE 1989, LAB 1989, and Teacher Opinion have with the CTBS, one finds that SABE 1989 and LAB 1989 show substantial direct relationships while Teacher Opinion has a much smaller relationship than what is indicated by its correlation between it and the CTBS. The fact that the direct

relationship between SABE Read 1989 and the CTBS is additional support for the claim that instruction in the native language is beneficial for the LEP students and carries over or generalizes to achievement in English. On the other hand, the path analysis seems to indicates that whatever is being measured by teacher opinion has, at best, a very small direct relationship to the CTBS. Most of the observable correlation between Teacher Opinion and the CTBS appears to be due to whatever relationships Teacher Opinion has in common with either the LAB or the SABE in 1989.

Table 11

Correlations between Teacher Opinion and LAB Subtests 1989

Grade	n	Listen/ Speak	Read/ Write	Listen1	Listen2	Read	Write	Speak
1	403	268	.023					
2	328	.323	.1814					
3	302			.120	.123	.121	.131	340
4	211			.079	.173	.219	.255	.299
5	151			.110	.171	.222	.223	.2024
6	98			.358	.402	.340	.382	416
7	87			.451	.420	.440	.410	.231
8	92			.4393	.4293	.502	.500	.546

The poor showing of Teacher Opinion is important especially in light of the fact that teacher opinion has been stressed as one of the three factors that make up the multiple criterion system. One possibility is that Teacher Opinion may be related to some aspects of English proficiency that are measured by the LAB. To test this, Teacher Opinion was compared with the subtest scores from the LAB in 1989. Since the subtest scores on the LAB were only given as raw scores (as opposed to the NCE scores available for the total score), these comparisons were

done on a grade by grade level. Table 11 shows the results of correlating Teacher Opinion with the subtest scores. The LAB for grades 3 to 8 consists of five subtests: Listening 1, Listening 2, Reading, Writing, and Speaking. At grades 1 and 2, there are two combined subtests Listening/Speaking and Reading/Writing.

Inspection of Table 11 indicates that in 6 of the eight grades (grades 5 and 7 are the exception), Teacher Opinion shows its highest correlation with the subtest for Speaking. It may be that Teacher Opinion is based primarily on an estimation of the student's conversational ability and not on a more general consideration of the student's ability to do more complex types of linguistic processing (such as those involved in reading, writing, verbal problem solving and so on).

Moreover, it would appear from the path analysis that whatever relationship Teacher Opinion has with CTBS achievement is less important than the relationship which either the LAB or the SABE have with the CTBS. This would argue for Teacher Opinion to play at most a marginal role in determining a bilingual student's qualification for mainstreaming.

Conclusions

Contrary to the original fears that prompted this study, the mainstreamed cohort appears to have safely weathered the transition to an all English speaking classroom environment. Some caution might be advised, however. First, there may be effects over a longer term than can be observed in a single year. It may therefore be of interest to follow the mainstreamed cohort at least for another year in order to determine whether they maintain the level of performance which they showed at the end of the 1989-90 school year.

In addition, as was noted in the preliminary report, the LAB cutoff points which were set by the state for mainstreaming are quite high. It may be that those who qualify for

mainstreaming under the single criterion system are in a sense the "cream", the ones who are so far up the distribution on the LAB that they are also likely be high in terms of English achievement. On the other hand, there may have been a large segment of students who do not do well on the LAB for various reasons, but who are nevertheless qualified to be mainstreamed based on other criteria. Further study should be done to see what would be a more efficient combination of measures for determining a student's qualification for mainstreaming so that the process can be more equitable for all LEP students.

There are several conclusions to be made from the results of the Teacher Background Questionnaire. First of all, there is a high degree of similarity between the response patterns of native language and ESL teachers. They are both highly experienced and trained, and show themselves as being dedicated and concerned for the well being of their students. They also generally give positive ratings to their working conditions and to the facilities and support that are given within the schools. One exception would be the mixed ratings which the ESL teachers give to the items dealing with facilities and physical conditions. Another exception would be the relatively low ratings which both groups of teachers gave to the item dealing with parents being interested in the progress of their children.

The correlational comparisons which were done between items from the questionnaire and the rate of mainstreaming indicate that differences between the two groups of teachers may have greater implications. Native language teachers tend to rate themselves as being lower in English proficiency and tend to employ English less often for instruction. This difference may be natural, given their prime mission of providing instruction in the native language. Nevertheless, it is important to note that the ratings of ability in English for the native language teachers appear to be related both to the amount of English which they report using in the classroom as well as their tendency to use small students groups for teaching.

Moreover, these items for the language teachers also appear to be related to the mainstreaming rate: the relation between both self rating of ability in English and amount of English used in instruction and mainstreaming rate is positive; the relationship between the use

of whole class teaching and mainstreaming rate is negative. One possible suggestion from this is that some effort should be made, probably through in-service training, to make native language teachers more confident of their ability to use English for instruction and to use it more flexibly along with the native language in the classroom. Another aspect of training might concentrate on the use of teaching to smaller groups as a way of focusing on particular needs of students.

Finally, the last section of this study provides support for the position that providing native language instruction serves not only to bolster the LEP student's achievement in the native language but also instills the necessary cognitive and knowledge structures needed for proficiency and achievement in English. The path analysis that was done of the correlation data indicates that the number of years as a LEP students is not as important an influence on later measures of achievement in the native language and English proficiency. It also indicates that while teacher opinion is significantly correlated with performance on the CTBS, its actual relationship with CTBS performance is much less important relative to the direct relationships which the SABE and the LAB have with the CTBS.

Appendix A

Distribution of Teacher Questionnaire Sample by School and Teacher Category

Distribution of Teacher Questionnaire Sample by School and Teacher Category

School Name	Type of School	Native Language	ESL
Abington	LMM	3 (6)	3 (3)
Alexander	MLH	0 (1)	1 (2)
Ann Street		0	1
Belmont Runyan	LLH	1 (1)	1 (1)
Broadway Elem	MML	6 (6)	0 (1)
Camden Middle	MLH	0 (0)	1 (1)
Dayton	MMH	4 (6)	1 (1)
E A Flagg	MMM	2 (2)	2 (2)
Elliott	HHM	10 (14)	4 (8)
Franklin	HHL	13 (20)	4 (9)
Hawkins	MMH	4 (6)	1 (2)
L A Spencer	HLL	2 (3)	1 (2)
Lafayette	HHH	3 (13)	4 (7)
McKinley	HMH	7 (7)	3 (3)
Mt Pleasant	LHM	1 (5)	1 (1)
Mt Vernon	HMM	1 (1)	4 (5)
Oliver	MHH	3 (8)	4 (5)
Quitman	HMM	1 (2)	1 (1)
Ridge	MHH	1 (7)	4 (4)
R. Clemente	LHM	9 (17)	2 (8)

South	LHL	3 (7)	1 (2)
Sussex	LML	3 (4)	0 (1)
Warren	LMM	0 (1)	1 (1)
Wilson	HHM	6 (12)	3 (6)
Not Given		5	4
Total	89 (149)	51 (76)	

Appendix B Items from the Teacher Questionnaire

QUESTIONNAIRE FOR BILINGUAL/ESL TEACHERS

Dear Teacher:

This survey will help us find out how well we have served the needs of LEP children in Newark during last year's 1988-89 school year. IT ONLY TAKES 10 TO 15 MINUTES TO FILL IT OUT and the information you provide will be of enormous importance to us.

Your answers will be kept completely anonymous and confidential. It will not in any way be used to evaluate the performance of individual teachers or administrators.

PLEASE keep in mind that this is a survey of the CLASS YOU TAUGHT DURING 1988-89 and NOT your current class.

Division of Planning, Evaluation, and Testing

1 What school (or schools) were you teaching in during 1988-89?

_____

2. How long have you been a teacher?

___a) 1-3 years ___b) 4 to 7 years ___c) 8 years or more

3. Which component(s) were you assigned to teach during 1988-89?

___a) ESL ___b) Developmental Bilingual in a self contained class

___c) Supplementary ESL ___ d) Developmental Bilingual on a pull-out basis

4. What native languages were spoken by the students you taught during the 1988-89 school year? (Please check all that apply)

___a) Spanish ___b) Portuguese ___c) French Creole

___d) Other (Please specify) _____

5. Please indicate the grade level(s) which you taught (Please check all that apply).

__K __1 __2 __3 __4 __5 __6 __7 __8 __9

6. What was your average class size or the average number of students you taught at any one time? _____

7. How long have you been a bilingual or ESL teacher (either in Newark or elsewhere)?

___a) 1 year ___b) 2-5 years ___c) 6 or more years

8. Which of the following do you have?

___BA degree __ MA degree ___MA plus 30 or more credits
___Ph.D ___Bilingual Endorsement ___ ESL certification

9. Please check off which of the following languages you know and your ability to communicate in that language.

___English	___poor	___fair	___good	___excellent
___Spanish	___poor	___fair	___good	___excellent
___Portuguese	___poor	___fair	___good	___excellent
___Other (French, Polish,etc.)	___poor	___fair	___good	___excellent

PART B

For the following items please circle the number that best describes how well you agree with that item. A "5" means you "Strongly Agree" with the item and a "1" means you "Strongly Disagree".

	1	2	3	4	5
	Strongly DISAGREE				Strongly AGREE
1. I placed great emphasis on student achievement in my approach to teaching.	1	2	3	4	5
2. I placed great emphasis on emotional and personal growth in my students.	1	2	3	4	5
3. The instructional objectives of the bilingual or ESL component in which I taught were entirely clear to me.	1	2	3	4	5
4. I encouraged my students to become proficient in English as quickly as possible.	1	2	3	4	5
(THE FOLLOWING ITEM IS FOR BILINGUAL TEACHERS ONLY) 5. I encouraged my students to become proficient in their native language as quickly as possible.	1	2	3	4	5
6. I encouraged my students to maintain their identity with their native language and culture.	1	2	3	4	5

	1	2	3	4	5
	Strongly DISAGREE				Strongly AGREE
7. I carefully kept my class list up-to-date throughout the school year.	1	2	3	4	5
8. The skills I taught to my students were appropriate for their ability level.	1	2	3	4	5
9. Instructional materials and supplies for my students were always readily available.	1	2	3	4	5
10. The environment in which I taught my students was conducive to learning (i.e., not too noisy).	1	2	3	4	5
11. The physical facilities (room size, number of chairs, desks, etc.) were adequate for the number of students I had to teach.	1	2	3	4	5
12. I feel that I got a great deal of support from the school administration.	1	2	3	4	5
13. The parents of the students in the program were very interested in the progress of their children.	1	2	3	4	5

PART C

1. What percentage of LEP students in your class in 1988-89 showed noticeable academic progress over the year at least in terms of your personal observations?

___0-19% ___20-39% ___40-59% ___60-79% __80-100%

2. What percentage of your students attended on a regular basis?

___a) less than 60% ___b) 60-69% ___c) 70-79% ___d) 80-89% __ e) 90-100%

3. In speaking to students, what percentage of the time did you use English?

___a) Less than 20% ___b) 21-40% ___c) 41-60% ___d) 61-80% ___e) 81-100%

4. (THE FOLLOWING ITEM IS FOR BILINGUAL TEACHERS ONLY):
What percentage of the time did you speak to your students in their native language?

___a) Less than 20% ___b) 21-40% ___c) 41-60% ___d) 61-80% ___e) 81-100%

5. During formal instruction, what percentage of the time did you use each of the following grouping practices?

small group instruction ___0-19% ___20-39% ___40-59% ___60-79% ___80-100%

individual instruction ___0-19% ___20-39% ___40-59% ___60-79% ___80-100%

entire class instruction ___0-19% ___20-39% ___40-59% ___60-79% ___80-100%

6. How often did you meet to coordinate instruction with other teachers who provided services to LEP pupils?

___ About weekly ___ About twice a month

___ About once a month ___ About once every cycle

7. How often did you meet with parents in person to discuss their children's progress?

___About weekly ___ About twice a month

___About once a month ___ About once every cycle

8. In what other ways do you assist and inform parents about how they can help their children's achievement?

___a) Conversations by phone ___b) Letters

___c) Pamphlets or other forms of printed information

___d) Other (Please specify) _____

9. What strategies or techniques have you found to be useful in teaching LEP children? (Please feel free to write on the other side of this page if you need more room)

_____
_____
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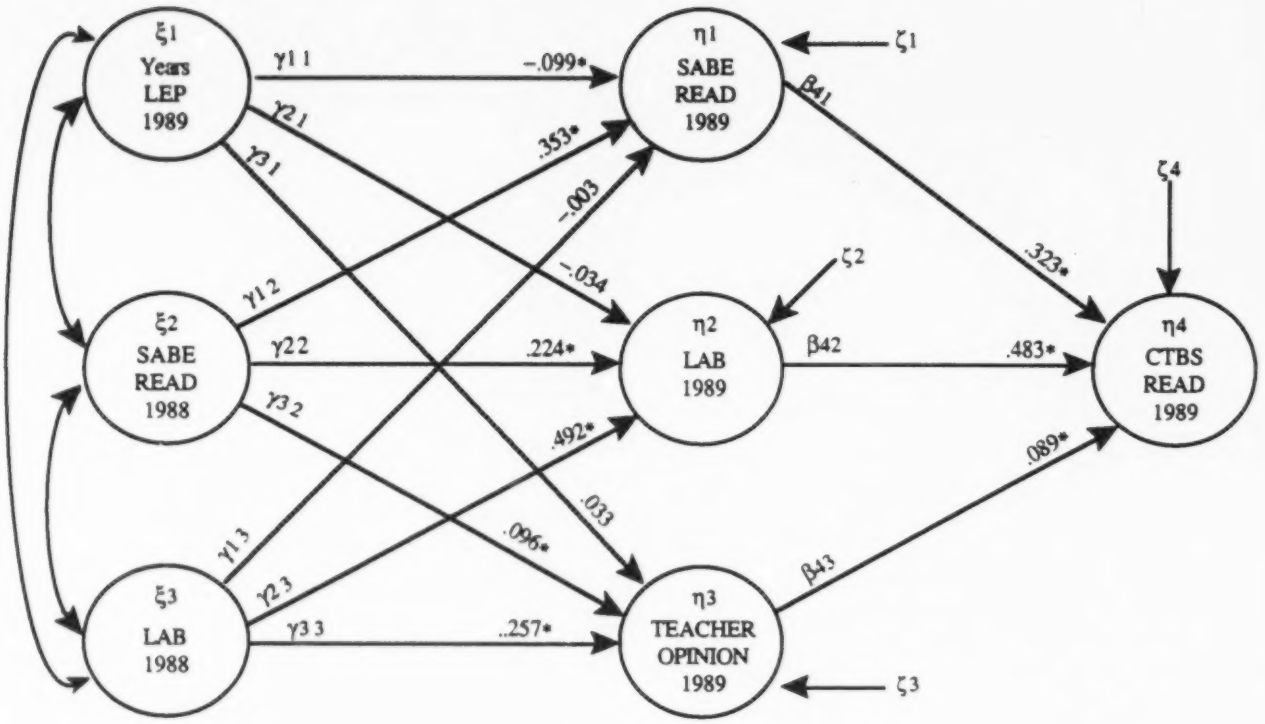
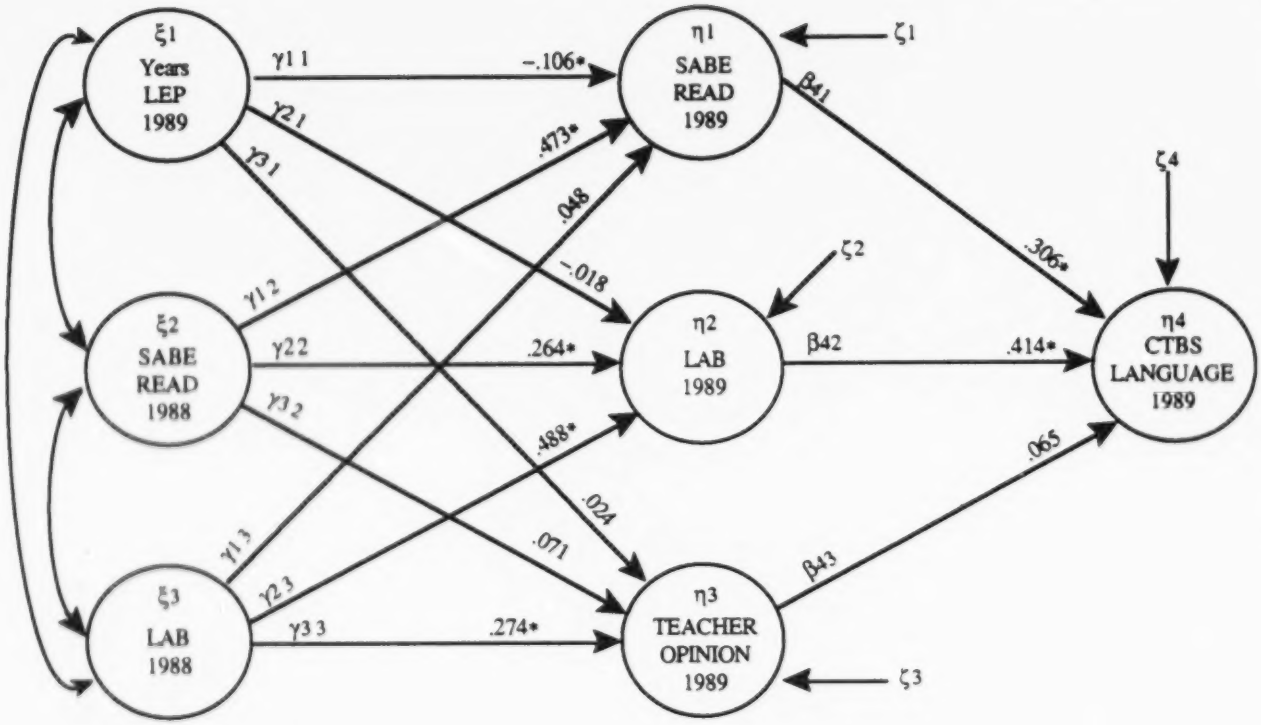
10. What problems have you encountered in teaching LEP students? (Again, feel free to use the other side of this page if you need more room)

Appendix C1: Path Diagram for Reading



Appendix C2: Path Diagram for Language



Appendix C3: Path Diagram for Mathematics